



## **U.S. Environmental Protection Agency Great Lakes National Program Office Significant Activities Report**

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**August 2002**

### ***IN THIS ISSUE:***

- ***Great Lakes Atlas a Best-Seller***
- ***Hearing on Erie's "Dead Zone"***
- ***Third Special Lake Erie Survey***
- ***River Raisin Cleanup Assessment***
- ***Summer Water Quality Survey***
- ***Mudpuppy on Genesee River***
- ***Funding Organizations Meet***
- ***Assessing Forest Health***
- ***Cazenovia Creek Project***
- ***Dune and Beach Projects***

### ***Great Lakes Atlas a Best-Seller***

***The Great Lakes Atlas: An Environmental Atlas and Resource Book***, published through a partnership of USEPA GLNPO and Environment Canada, continues to be an extremely popular publication. The Atlas is now in its third re-printing.

Larry Brail has been busy fulfilling requests for the Atlas from institutions and individuals across the nation and around the world. The requests come in from universities, high schools and grade schools, from visitor's centers, nature centers, museums, libraries; local, state, federal, and foreign government agencies; tour operators and travel agencies; home schoolers; the Girl Scouts and Boy Scouts; and many others. In addition, the Atlas is used as a text book in courses in at least 35 colleges and universities from coast to coast.

The Atlas has been given as a resource and keepsake to many of the foreign visitors who visit USEPA's Chicago office, often to learn about the Great Lakes and how the problems of the Great Lakes have been addressed. As a result, the Atlas is in the libraries of government's executive and resource agencies and universities in virtually every corner of the globe.

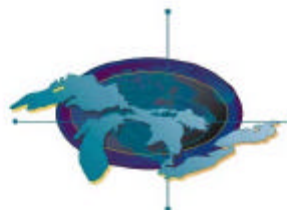
The Great Lakes Atlas' popularity as an educational tool has increased dramatically over the past five years. Since June, 1997, over 23 thousand Atlases have been distributed! GLNPO receives an average nearly fifty requests for the Atlas each month, resulting in an average of nearly 400 Atlases sent out each month.

A sampling of comments received from Atlas recipients:

*"... many have told me what a wonderful resource they are for individuals engaged in water quality protection."*

*"Thank you very much! We will be using the Atlas at a training next month of*

### **THE GREAT LAKES *An Environmental Atlas and Resource Book***



Great Lakes Atlas Title Page.

*watershed organizations from around the Great Lakes and beyond and think it is a great publication."*

*"What a wonderful resource! I have been a resident of Michigan all my life and I couldn't stop reading. I am helping to develop a fourth grade curriculum on the Great Lakes and Shipping. Thank you for providing a wonderful source about our wonderful Great Lakes."*

To request a copy of the Great Lakes Atlas, contact Larry Brail by phone (312-886-7474), or email ([brail.lawrence@epa.gov](mailto:brail.lawrence@epa.gov)).

The Atlas is also available on the Web at: <http://www.epa.gov/glnpo/atlas/index.html>

### Hearing on Erie's "Dead Zone"

On August 5<sup>th</sup>, U.S. Senator George Voinovich presided over a committee field hearing of the Senate Committee on Environment and Public Works in Cleveland, Ohio, to help explain the Lake Erie Anoxia (Dead Zone). USEPA Deputy Regional Administrator, David Ullrich, presented testimony on the problems in the Lake Erie ecosystem, and on USEPA GLNPO's efforts to study the problem ([http://www.senate.gov/~epw/Ullrich\\_080502.htm](http://www.senate.gov/~epw/Ullrich_080502.htm)). Other witnesses at the hearing included Gary Isbell, Executive Administrator of Fisheries Management and Research, Ohio Division of Wildlife, Ohio Department of Natural Resources; Elaine Marsh, Board Member of Great Lakes United. Scientists from the Lake Erie basin also provided testimony, including Dr. Jeffrey Reutter, Director of the Ohio Sea Grant Program; Dr. David Culver of the Ohio State University; Dr. Robert Heath of Kent State University; and Dr. Gerald Matisoff of Case Western Reserve University. All of these scientists and their institutions were involved in planning and/or carrying out the

Lake Erie Special Study organized by USEPA GLNPO (see related stories in this issue and in the March, May, June, and July 2002 Significant Activities Reports. Dr. Matisoff is the co-director of the current Lake Erie Trophic Transfer Supplemental Study.

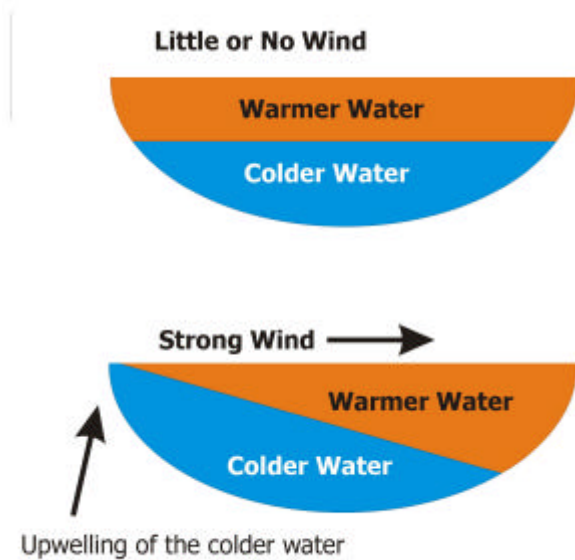


Rear Admiral Ronald Silva, Paul Horvatin, Senator George Voinovich, and David Ullrich onboard the *R/V Lake Guardian* in Cleveland, Ohio.

Senator Voinovich and Rear Admiral Ronald Silva, Commander Ninth Coast Guard District, Cleveland, toured the *R/V Lake Guardian* before the hearing, and participated in a short sampling effort in the Cleveland harbor to collect sediment for Dr. Gerald Matisoff of Case Western Reserve University. (Contact: Paul Horvatin, [horvatin.paul@epa.gov](mailto:horvatin.paul@epa.gov), 312-353-3612)

### Third Special Lake Erie Survey

The third Lake Erie Supplemental Survey, in support of GLNPO-funded research into the anoxia problems in the central basin of Lake Erie was conducted from August 16<sup>th</sup> through August 21<sup>st</sup>. There were 21 researchers aboard the *R/V Lake Guardian* for this survey. As on previous surveys, a number of different measurements will be taken and experiments performed. This survey should coincide with low dissolved oxygen levels in bottom waters of the central basin



How upwelling can bring bottom water nearer the surface when a strong wind blows across the lake.

of Lake Erie. One of the early, and unexpected observations from this survey is that water, low in oxygen, was observed at some shallow water sites on the northern edge of the central basin. This may be the result of upwelling of bottom water due to strong winds. (Contact: David Rockwell, [rockwell.david@epa.gov](mailto:rockwell.david@epa.gov), 312-353- 1373)

### River Raisin Cleanup Assessment

In late July, the Michigan Department of Environmental Quality placed fish cages at several locations on the River Raisin as part of an ongoing, GLNPO-sponsored evaluation of the benefits of a 1997 sediment removal project which removed almost 30,000 cubic yards of PCB-contaminated sediments from the vicinity of an industrial outfall. The fish cages will provide insight into the bioaccumulation potential of the PCB contamination that remains in the area, and will allow comparison to historical caged-fish data. The cages will be collected in late August and the fish will be analyzed for PCB levels. Final results from this sampling are expected in early 2003. The

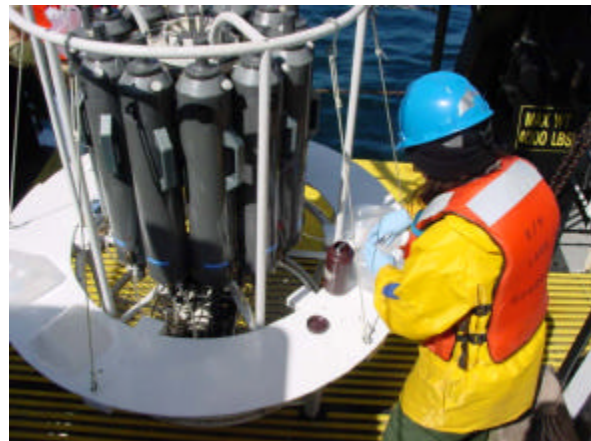


Aerial view of River Raisin at Monroe, Michigan (sediment cleanup area is near right edge of photo)..

caged-fish data will augment sediment chemistry and bioaccumulation data that was collected at the site in October 2001. (Contact: Scott Cieniawski, 312-353-9184, [cieniawski.scott@epa.gov](mailto:cieniawski.scott@epa.gov).)

### Summer Water Quality Survey

The summer water quality survey began on August 1<sup>st</sup>, departing from Milwaukee, Wisconsin. All five Great Lakes will be sampled for water chemistry and biology. Samples of zooplankton, phytoplankton and benthos (bottom dwelling organisms) will be analyzed to assess changes in these biological communities, as well as looking for any new invading species. The combined



Scientist collects water sample from rosette sampler.



chemical data and biological analyses are critical components in our annual look at the health of the Great Lakes. This year, the survey is supporting additional sampling for polybrominated diphenyl ethers (PBDEs) in sediments from Lakes Huron, Erie and Ontario, and sampling for atmospheric contaminants in Lake Superior. The survey will be interrupted for one week, to provide the ship to the Lake Erie Trophic Transfer Supplemental Study research group, who are investigating the Lake Erie "Dead Zone." (Contact: Glenn Warren: [warren.glenn@epa.gov](mailto:warren.glenn@epa.gov), 312-886-2405)

### ***Mudpuppy* On Genesee River**

From July 15<sup>th</sup> to 17<sup>th</sup>, the *R/V Mudpuppy* was in Rochester, New York to collect sediment samples on the Genesee River. This sampling survey was part of a collaborative effort between U.S. EPA GLNPO, New York State Department of Environmental Conservation (NYSDEC), and the U.S. Fish and Wildlife Service (USFWS) to conduct a preliminary assessment of the sediments in the Rochester Area of Concern (AOC).



Scientists collect sediment core samples from *R/V Mudpuppy*.

Sampling and analysis was funded in part through a GLNPO grant to the NYSDEC and an interagency agreement with USFWS. The agency collected sediment core samples and surficial ponar samples throughout the AOC including the Genesee River, Lake Ontario and several bays in the area. Sediment samples are being analyzed for chemistry, toxicity, benthic community, and bioaccumulation. Results will be used make sediment management decisions within the AOC, including the possibility of de-listing several identified use impairments. (Contact: Demaree Collier, 312-886-0214, [collier.demaree@epa.gov](mailto:collier.demaree@epa.gov)).

### **Funding Organizations Meet**

On July 15<sup>th</sup>, GLNPO staff attended the Great Lakes Funders' Meeting in Chicago at the Joyce Foundation offices. Also in attendance were representatives from national and regional foundations from the United States and Canada and the Great Lakes Protection Fund. Using a pre-meeting questionnaire, a chart that captured attendees' grant-making priorities was revised.

Dick Munson, Executive Director of the Northeast-Midwest Institute gave an overview of public funding for Great Lakes issues. Presentations on water management and smart growth issues provided topics for discussion on emerging opportunities for grant-making. Trends and events discussions focused on the economic downturn and resulting reduced budgets for grants and an Ontario perspective. One suggested future action for this group is a joint Web Page that has funders' grant application timetables, criteria, available dollar amounts, and brief descriptions of projects that are funded. This Web Page would make the search for Great Lakes funding by agencies and organizations much easier.

(Contact: Karen Rodriguez, 312-353-2690,

[rodriguez.karen@epa.gov](mailto:rodriguez.karen@epa.gov))

### Assessing Forest Health

As part of a cooperative agreement between GLNPO and the Sigurd Olson Environmental Institute, GLNPO staff is participating in conference calls regarding the development of Great Lakes forest health indicators. Also on the calls were Environment Canada, USDA Forest Service, Council of Great Lakes Industries, Great Lakes Forest Alliance, and others interested developing a suite of indicators and presenting findings at the 2002 State of the Great Lakes Ecosystem Conference (SOLEC) this October in Cleveland, Ohio.



Forest on Isle Royale on Lake Superior.

Federal, State and Provincial agencies in the United States and Canada have developed forest indicators based on the Montreal Process as well as other ongoing processes. The task for SOLEC is to winnow these to a number that can be feasibly monitored and reported on, and that give the most information on the ecological status of Great Lakes forests. It is expected that about a dozen indicators will be chosen and presented for review at the conference, with further work on developing a suite continuing after SOLEC. (Contact: Karen Rodriguez, 312-353-2690, [rodriguez.karen@epa.gov](mailto:rodriguez.karen@epa.gov))

### Cazenovia Creek Project

With funding assistance from GLNPO, the Erie County Department of Environment and Planning in Buffalo, New York carried out a project whose goal was to restore habitat in Cazenovia Creek, and to institute a perpetual community-level stewardship resource for its continual protection. Cazenovia Creek is a main tributary to the Buffalo River, of which the lower portion is identified by the International Joint Commission as one of 42 Areas of Concern in the Great Lakes basin due to poor water quality and contaminated sediments. Much of the contaminated sediment load to the Buffalo River originates in Cazenovia Creek.

The project had three phases:

- Phase 1 was to establish a project partnership. A steering committee made up of representatives from schools, the county, and conservation districts was formed. Called the Cazenovia Creek Curriculum Committee, it conducted teacher training, lab days, streambank cleanups and plantings, and laid the framework for a new curriculum for the watershed. It then joined with another group, the Western New York: Connecting to Learn Program, in order to better leverage resources.
- Phase 2 was the development of a watershed curriculum that included outdoor learning about water quality and ecology.
- Phase 3 implemented the curriculum with training, fieldwork, cooperative learning, and promotion of environmental stewardship.

Key accomplishments of the Cazenovia Creek project included:

- One thousand linear feet of streambank stabilization work completed,



Girl Scouts participating in Earth Day 2002 as part of the Phase 3, curriculum implementation.

- Direct participation of more than 400 students,
- More than 2,000 students indirectly involved through complementary programs,
- Two teacher training events, and
- Evolution into the “Connecting to Learn” program as a new vehicle to continue the project.

Lessons learned included:

- Accountability is the key,
- Follow-through is a must,
- Program implementation must be flexible,
- Partnerships do not maintain themselves, and
- Opportunities must be created for continuation of the project without immediate oversight.

Questions about the project may be directed to Erie County Department of Environment and Planning at 716-858-8846. (Contact: Karen Rodriguez, 312-353-2690, [rodriguez.karen@epa.gov](mailto:karen@epa.gov).)

## Dune and Beach Projects

The Great Lakes National Program Office is analyzing 106 final grant reports from ecological protection and restoration projects funded by GLNPO and completed between 1992 and 2001. As part of the analysis, projects are being analyzed for environmental, stewardship, and economic results. The following is the analysis of funding for sand beach and dune projects from the report, *Mining Ideas II*, which is currently being printed and will be distributed shortly.

Of the 106 projects awarded and completed between 1992-2001, eight were sand beaches and dunes projects. These projects protected or restored 462 acres and 2,030 linear feet of sand beaches and sand dunes. GLNPO funding for these projects was nearly \$600,000, which leveraged almost \$200,000. Of these amounts, over \$200,000 went back into the community as contract dollars to hire stewards and buy the services of lumberyard products, contractors, and publishers.

Great Lakes sand dunes comprise the largest collection of freshwater coastal dunes in the world. They occur on all five lakes. In the State of Michigan, there are 275,000 acres of which 70,000 acres are protected. Sand beaches and dunes contribute to a diversity of habitats for animals and plants,



Sand dunes at Indiana Dunes National Lakeshore.



are home to species that live nowhere else in the world (endemic species), protect the land from lake storms, and are worth billions of dollars a year in recreational potential. Sand from Lake Michigan dunes is used in automobile manufacturing and other industries.



Pitcher's thistle, an endangered dune plant.

The sand communities of the Great Lakes are moderately degrading due to invasive species, shoreline residential development, off-road vehicles, pedestrian recreational overuse, and sand mining.

Protection measures that are needed include the removal of invasive plant species and partnerships to protect and restore sensitive areas.

The purpose of the eight sand beach and sand dune grants was to demonstrate practices that protect or restore Great Lakes sand communities. The grants demonstrated that sand transport mechanisms are poorly understood. They also demonstrated that recreational users need to be primary targets for education and outreach efforts because their activities significantly impact sand communities. A dune steward program may be the best way to undertake education and outreach. Due to the success demonstrated in a dune protection and restoration project

in Eastern Lake Ontario (<http://www.epa.gov/glnpo/ecopage/lakeont.html>), GLNPO recently awarded a grant to the Conservation Fund to undertake actions to protect and restore the sand communities along the eastern shore of Lake Michigan.

Indicators to monitor the health of Great Lakes sand communities will be developed through the State of the Lakes Ecosystem Conference process, enlisting the help of experts on sand communities. (Contact: Karen Rodriguez, 312-353-2690, [rodriguez.karen@epa.gov](mailto:rodriguez.karen@epa.gov))

We welcome your questions, comments or suggestions about this month's Significant Activities Report. To be added to or removed from the Email distribution of the Significant Activities Report, please contact Tony Kizlauskas, 312-353-8773, [kizlauskas.anthony@epa.gov](mailto:kizlauskas.anthony@epa.gov).